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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,650	04/13/2001	Roger A. Fleming	10010268-1	1720

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EXAMINER	
CHU, GABRIEL L	
ART UNIT	**PAPER NUMBER**
2114	

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/833,650	FLEMING, ROGER A.
	Examiner	Art Unit
	Gabriel L. Chu	2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☒ Claim(s) *2,3 and 11-13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 9 is objected to because of the following informalities: Referring to claim 9, "said first is operable" is understood to refer to "said first host is operable". Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 09/833771. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of either invention are both directed toward a distributed processing system with processes in a network. Referring to claims 1-5 in the present application, a process failure in a network is detected, whereas in claims 1-5 of '771, a network failure is detected by monitoring a process failure in a network. Referring to claims 6-8 of the present invention, a network

failure by monitoring a process failure in a network is detected, whereas in claims 6-8 of '771, a process failure in a network is detected. Referring to claims 9-15 of the present invention, a process failure in a network is detected, whereas in claims 9-15 of '771, a network or a process failure is detected by monitoring a process failure in a network.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4-10, 14, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6088330 to Bruck et al. Referring to claim 1, Bruck et al. disclose a method of detecting a process failure in a distributed system, the method comprising steps of: (1) measuring a first period of time between an instance a last heartbeat was received from a first process and a later instance in time; (2) measuring a second period of time between an instance a last heartbeat was received from a second process and said later instance in time (From line 20 of column 11, "The preferred system clues are obtained from messages that are sent from node A to each other node in the system, over each possible path to the other node. These messages are called

"heartbeats". NETM sends a message from the local node ("node A") to each remote node ("node B") over each pathway. Each connection is characterized by three items of information called the Ci,j,k "tuple" including I=local interface; j=remote node and k=remote interface. This tuple defines an unambiguous path."); (3) comparing said first and second periods of time with a predetermined threshold; and (4) determining whether a process failure occurred in response to said comparison in step (3) (From line 65 of column 11, "Since the same protocol is running on each node, each node knows that it should receive a heartbeat from each other node each 10 ms. Each NETM runs a timer which is reset each time that NETM receives a heartbeat from the other node. If the timer expires without receiving a heartbeat from the other node, then the judgement can be made that there is a problem with the connection.").

Referring to claims 4 and 7, Bruck et al. disclose said steps are performed as computer-executable instructions on a computer-readable medium (See figures 7 and 8.).

Referring to claims 5 and 8, Bruck et al. disclose said distributed system includes one network (See figure 1.).

Referring to claim 6, Bruck et al. disclose a method of detecting a network failure in a distributed system, the method comprising steps of: (1) determining whether a heartbeat is received from at least one process in the distributed system prior to an expiration of a heartbeat timeout; and (2) detecting a failure of a network in said system in response to not receiving said heartbeat from said at least one process prior to said expiration of said heartbeat timeout (From line 65 of column 11, "Since the same

protocol is running on each node, each node knows that it should receive a heartbeat from each other node each 10 ms. Each NETM runs a timer which is reset each time that NETM receives a heartbeat from the other node. If the timer expires without receiving a heartbeat from the other node, then the judgement can be made that there is a problem with the connection.").

Referring to claim 9, Bruck et al. disclose a distributed system including a plurality of hosts connected via a network, wherein each host executes a process in said distributed system, said system comprising: a first host of said plurality of hosts executing a first process (From line 20 of column 11, "The preferred system clues are obtained from messages that are sent from node A to each other node in the system, over each possible path to the other node. These messages are called "heartbeats". NETM sends a message from the local node ("node A") to each remote node ("node B") over each pathway. Each connection is characterized by three items of information called the Ci,j,k "tuple" including I=local interface; j=remote node and k=remote interface. This tuple defines an unambiguous path."); wherein said first is operable to detect one of failure of a second process executing on second host and failure of said network based on a period of time to receive a heartbeat transmitted from at least one of said plurality of hosts (From line 65 of column 11, "Since the same protocol is running on each node, each node knows that it should receive a heartbeat from each other node each 10 ms. Each NETM runs a timer which is reset each time that NETM receives a heartbeat from the other node. If the timer expires without receiving a heartbeat from the other node, then the judgement can be made that there is a problem with the

connection." Further, from line 23 of column 2, "The server system also runs a distributed detection routine which detects system functional states. One system functional state, for example is a network fault. The network fault can include a communication fault such as a broken link, or an inoperable node or switching device. More generally, however, the system functional state can be any condition which may prevent any operation of the network. The system functional state can be compensated by the system redundancy.").

Referring to claim 10, Bruck et al. disclose a third host of said plurality of hosts executing a third process; wherein said first host is operable to measure a first period of time between an instance a last heartbeat was received from said third host on said network and a later instance in time and measure a second period of time between an instance a last heartbeat was received from said second host and said later instance in time (From line 20 of column 11 (with emphasis), "The preferred system clues are obtained from messages that are sent from node A to each other node in the system, over each possible path to the other node. These messages are called "heartbeats". NETM sends a message from the local node ("node A") to **each** remote node ("node B") over each pathway. Each connection is characterized by three items of information called the Ci,j,k "tuple" including I=local interface; j=remote node and k=remote interface. This tuple defines an unambiguous path."); said first host being further operable to compare said first and second periods of time with a predetermined threshold, and detect a failure of said second process in response to said comparison (From line 65 of column 11, "Since the same protocol is running on each node, each

node knows that it should receive a heartbeat from each other node each 10 ms. Each NETM runs a timer which is reset each time that NETM receives a heartbeat from the other node. If the timer expires without receiving a heartbeat from the other node, then the judgement can be made that there is a problem with the connection.").

Referring to claim 14, Bruck et al. disclose said first host is operable to determine whether a heartbeat is received from at least one other host in said system prior to an expiration of a heartbeat timeout (From line 20 of column 11 (with emphasis), "The preferred system clues are obtained from messages that are sent from node A to each other node in the system, over each possible path to the other node. These messages are called "heartbeats". NETM sends a message from the local node ("node A") to **each** remote node ("node B") over each pathway. Each connection is characterized by three items of information called the Ci,j,k "tuple" including I=local interface; j=remote node and k=remote interface. This tuple defines an unambiguous path." Further, from line 65 of column 11, "Since the same protocol is running on each node, each node knows that it should receive a heartbeat from each other node each 10 ms. Each NETM runs a timer which is reset each time that NETM receives a heartbeat from the other node. If the timer expires without receiving a heartbeat from the other node, then the judgement can be made that there is a problem with the connection.").

Referring to claim 15, Bruck et al. disclose said first host is further operable to detect said failure of said network in response to not receiving a heartbeat from said at least one other host prior to said expiration of said heartbeat timeout (From line 65 of column 11, "Since the same protocol is running on each node, each node knows that it

should receive a heartbeat from each other node each 10 ms. Each NETM runs a timer which is reset each time that NETM receives a heartbeat from the other node. If the timer expires without receiving a heartbeat from the other node, then the judgement can be made that there is a problem with the connection.").

Allowable Subject Matter

6. Claims 2, 3, and 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and further overcoming the nonstatutory double patenting rejection.

Referring to claims 2 and 3, the prior art does not teach or fairly suggest, in light of the parent claims, step (3) further comprises steps of: calculating a difference between said first period of time and said second period of time; and comparing said difference to said predetermined threshold.

Referring to claims 11-13, the prior art does not teach or fairly suggest, in light of the parent claims, said first host is further operable to calculate a difference between said first period of time and said second period of time, and compare said difference to said predetermined threshold.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 4811200 to Wagner et al.

US 5884018 to Jardine et al.

US 6321344 to Fenchel

US 6363496 to Kwiat

US 6647508 to Zalewski et al.

US 6678840 to Kessler et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (703) 308-7298. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel, Jr. can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gc

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